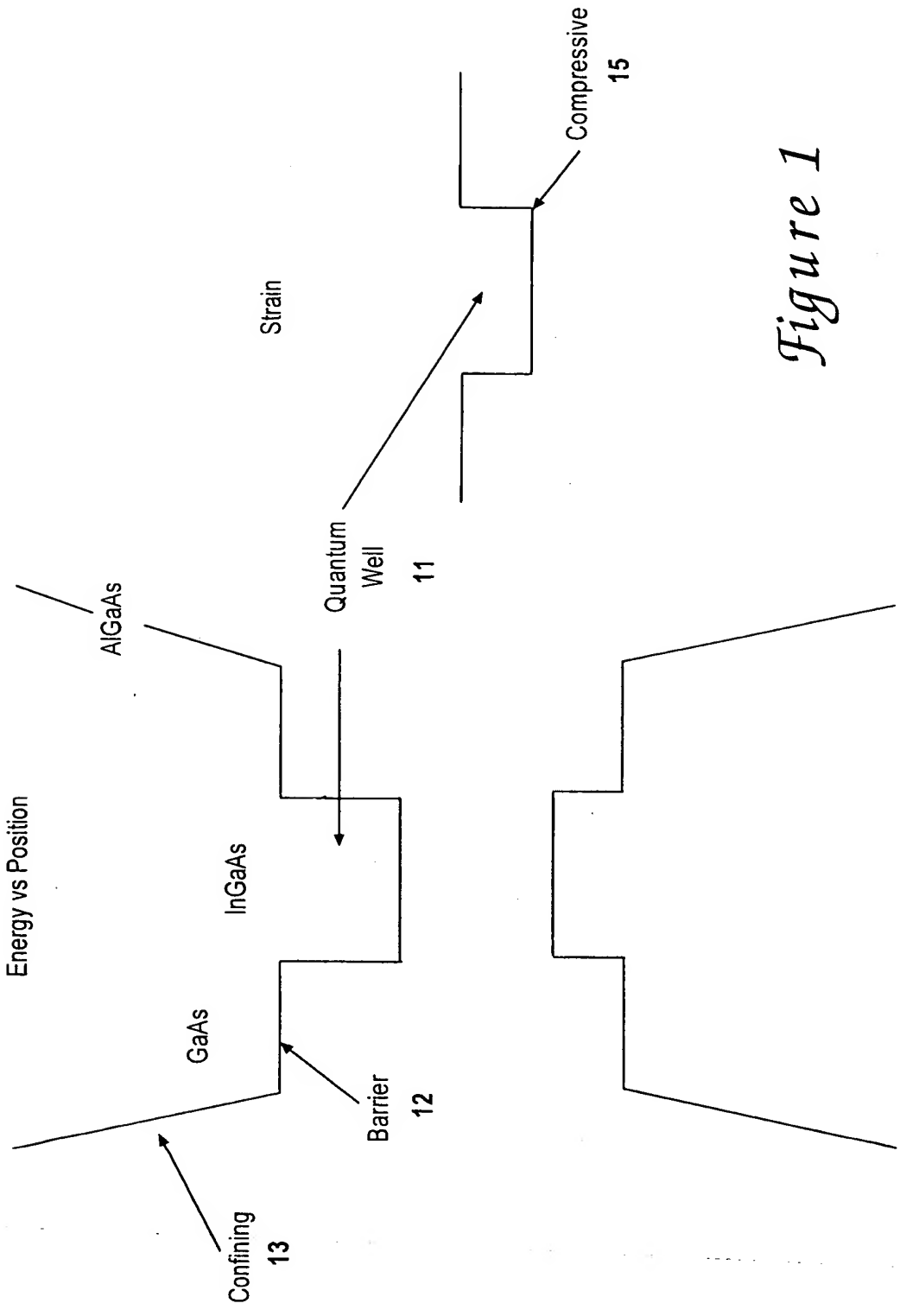

Energy vs Position
AlGaAs
InGaAs
GaAs
Confining
13
Barrier
12
Quantum
Well
11
Strain
Compressive
15

Figure 1

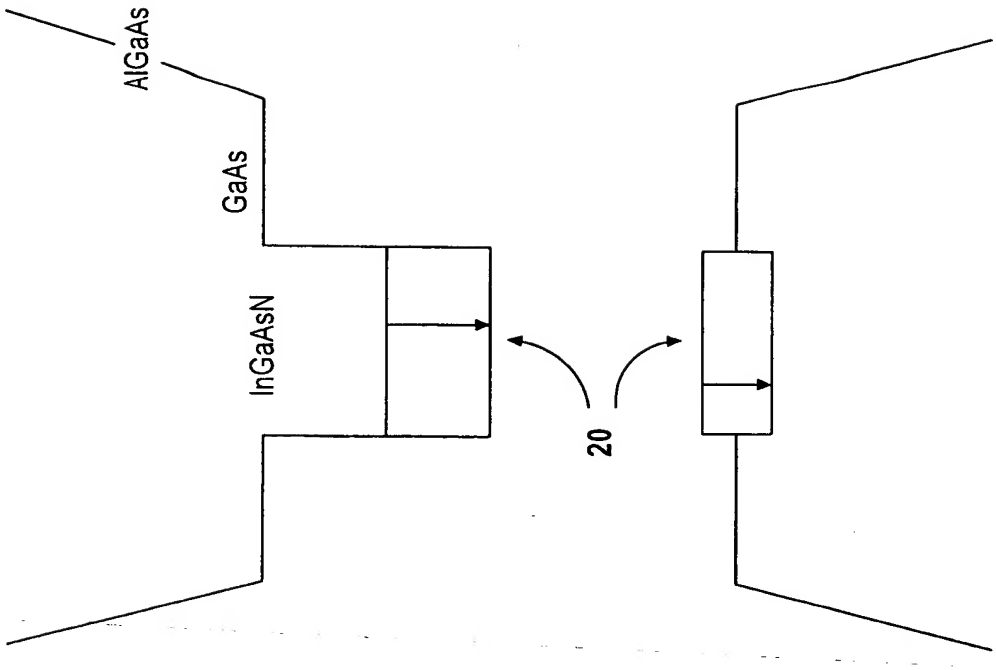


Figure 2

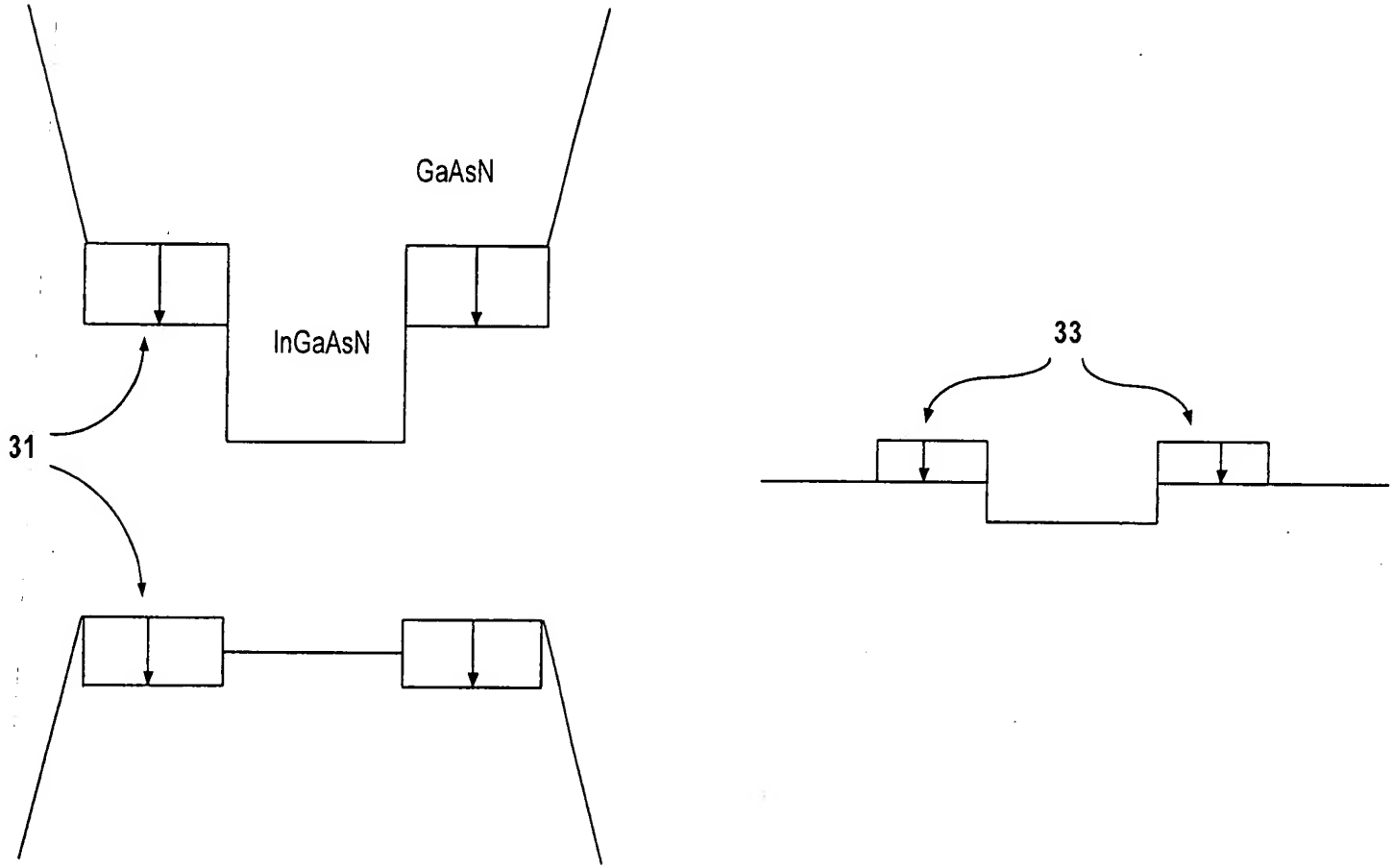
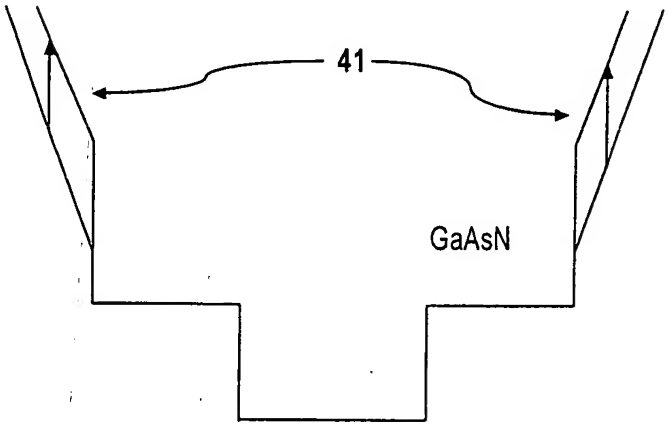


Figure 3



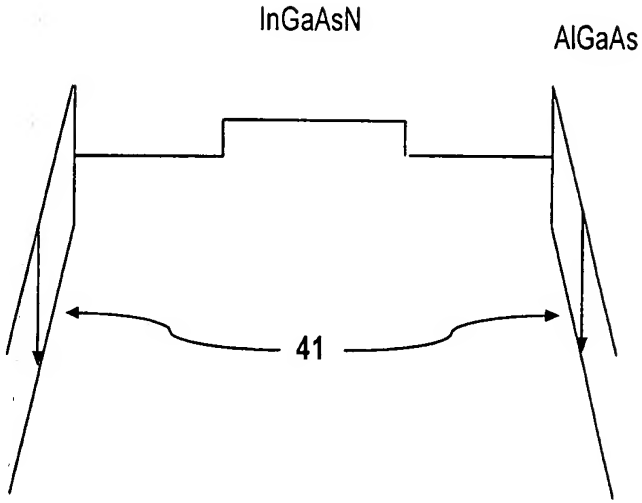


Figure 4

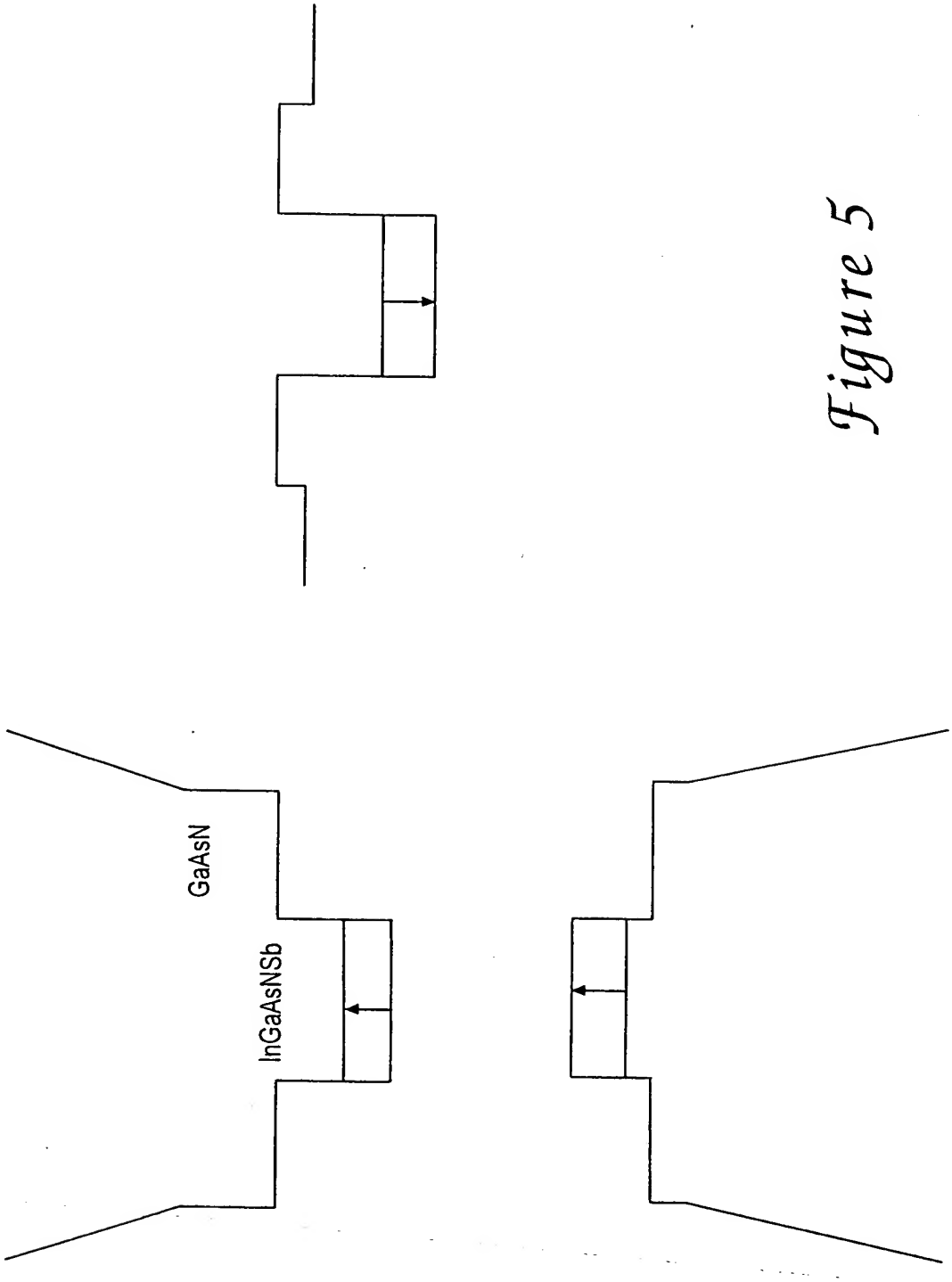


Figure 5

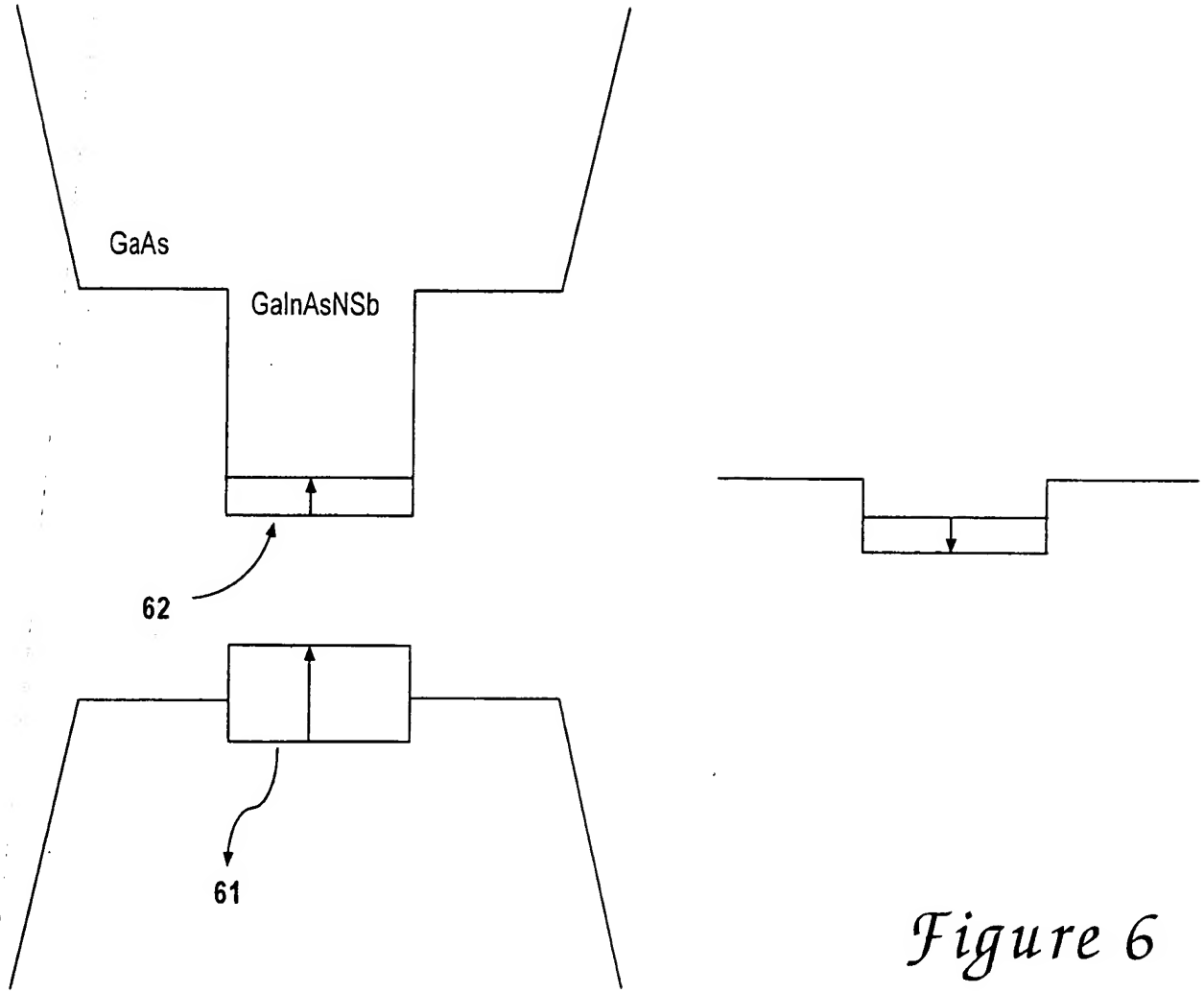
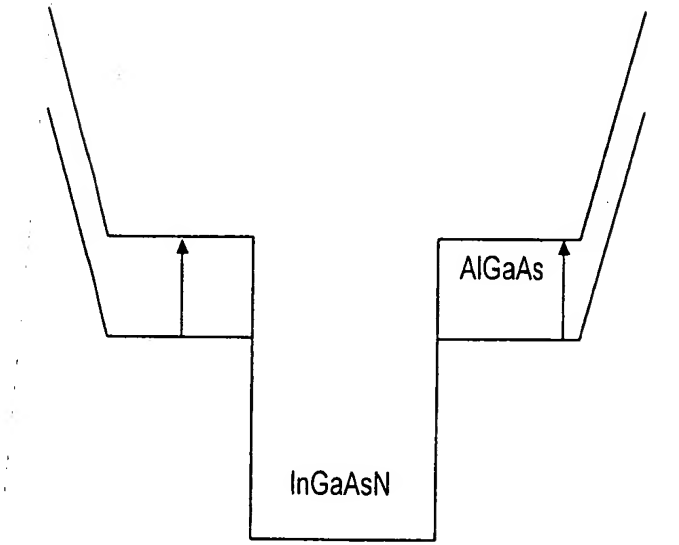


Figure 6

TOSHIBA CAMBRIDGE



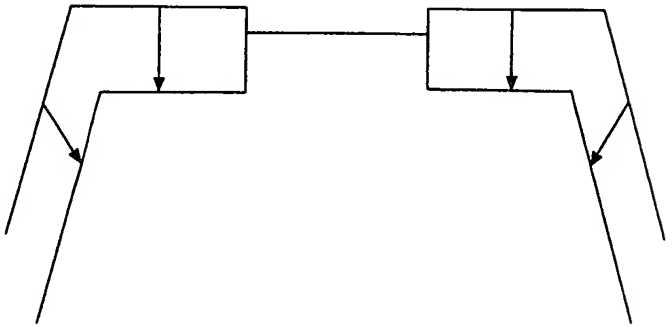


Figure 7

Patent Application

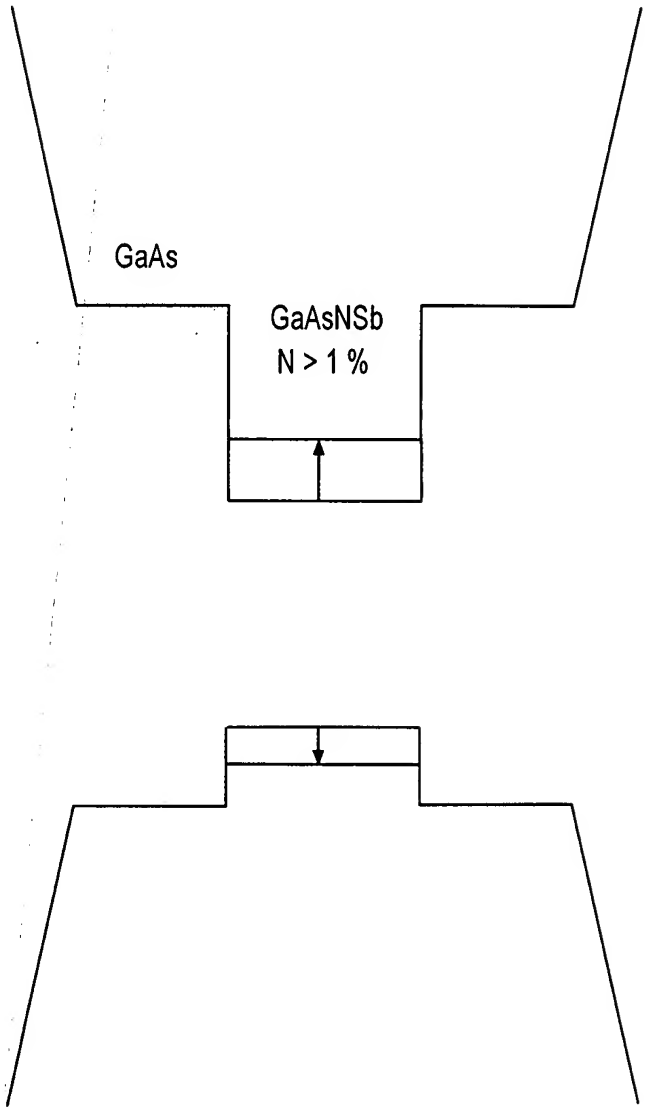


Figure 8

TO/2004/050301

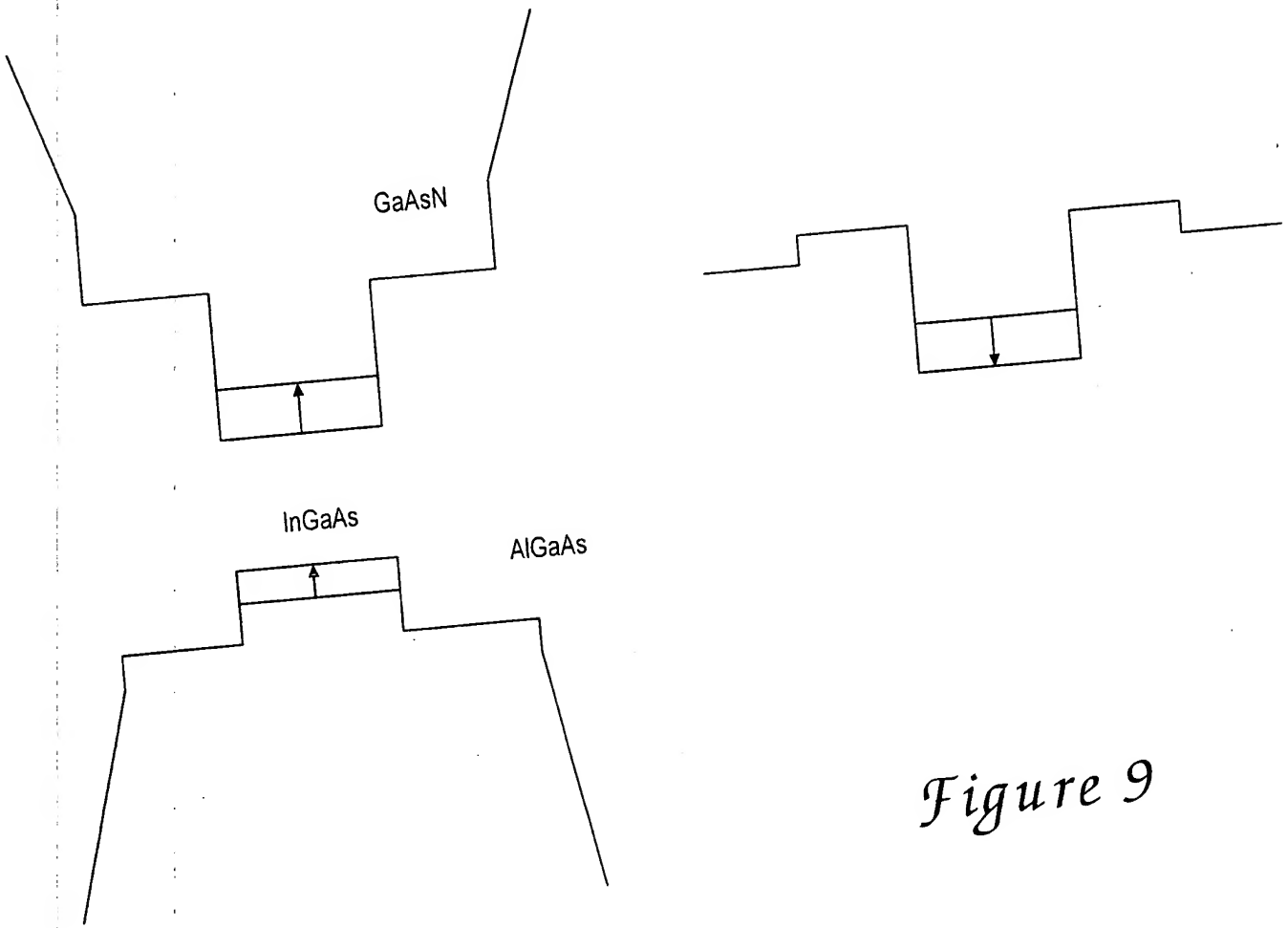
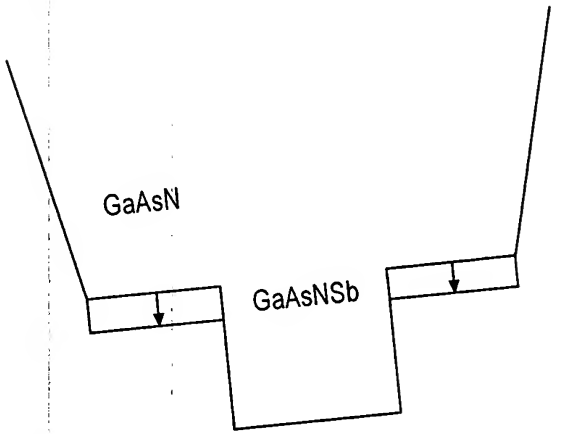


Figure 9

FOCUS-WO2005/001911



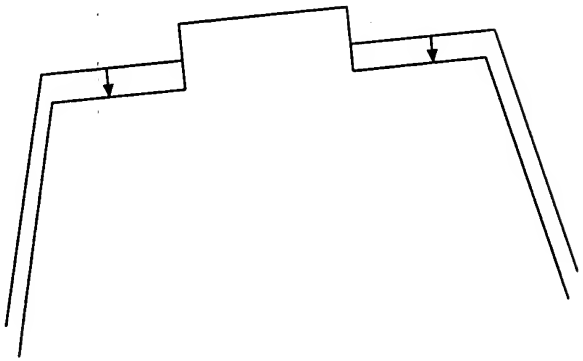


Figure 10

TOKEN: 0209260T

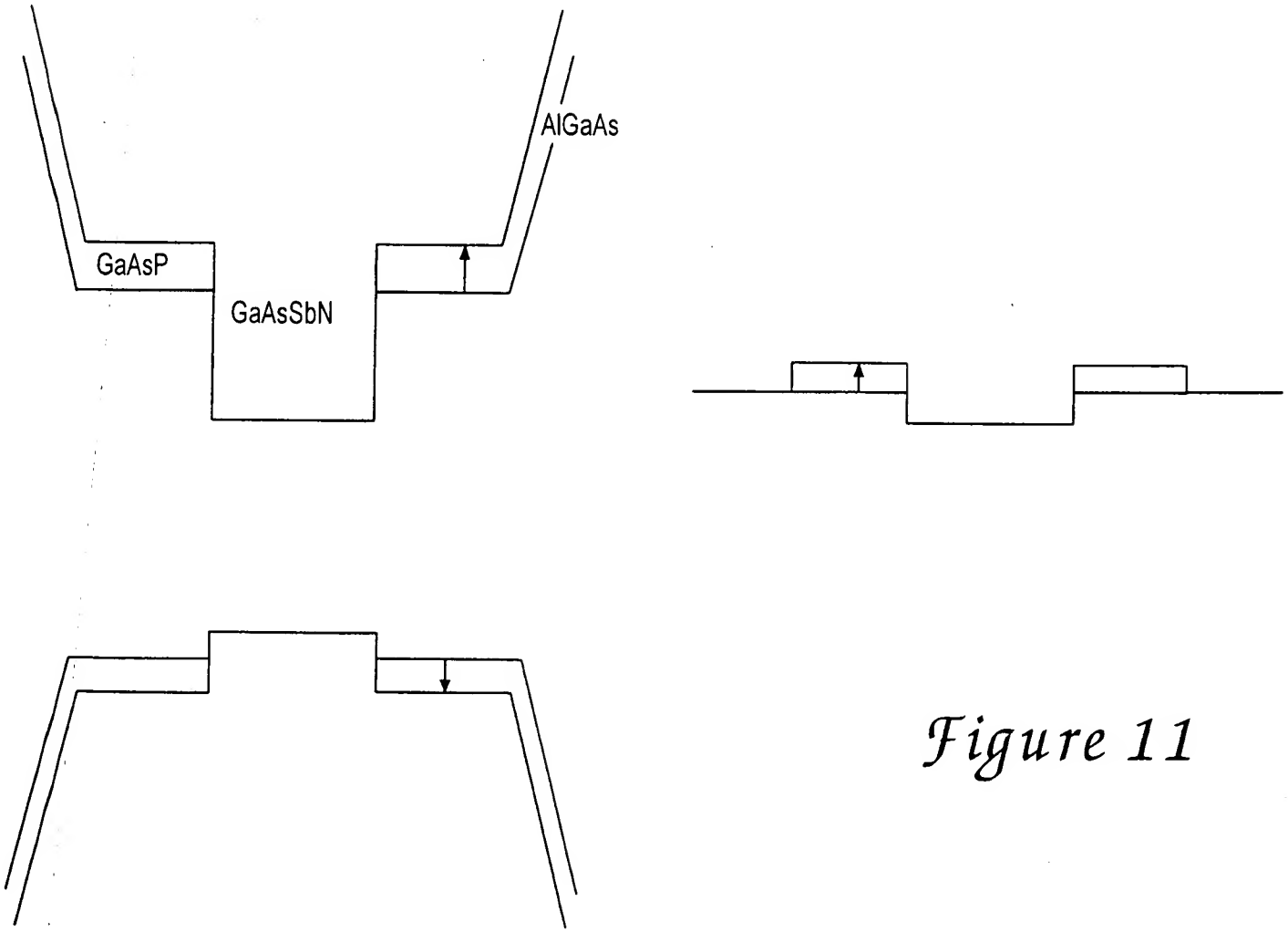


Figure 11

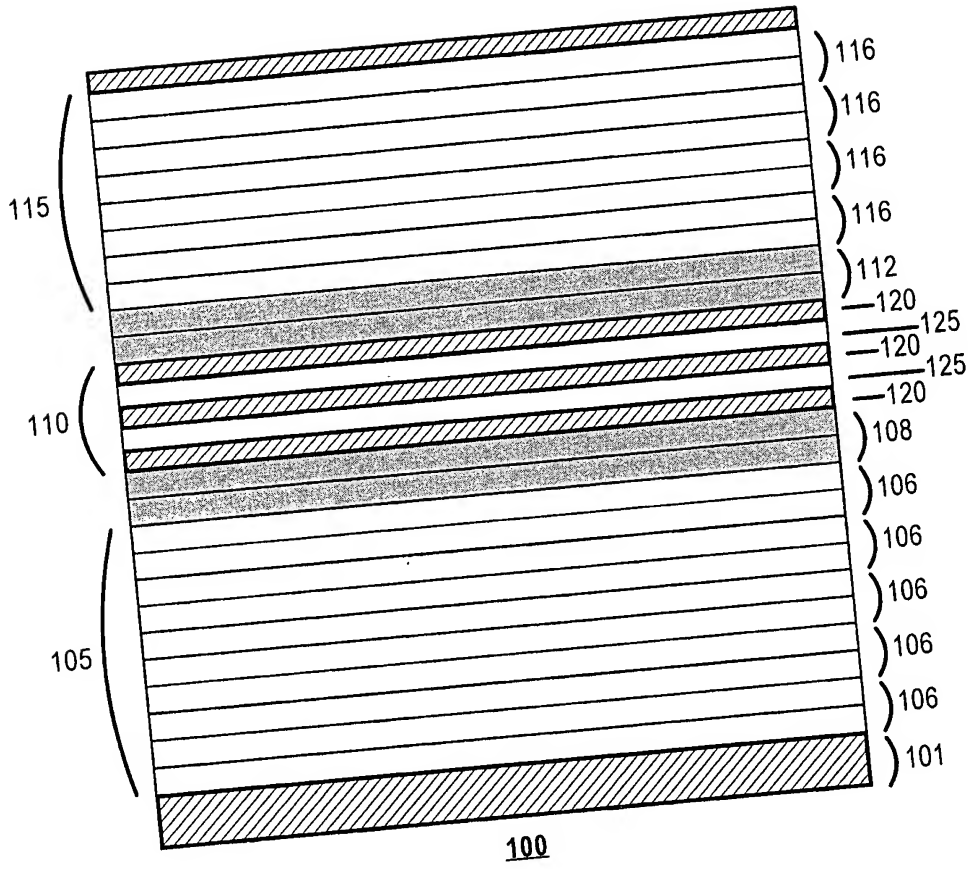

116
116
116
116
112
120
125
120
125
120
108
106
106
106
106
106
101
115
110
105
100

Figure 12

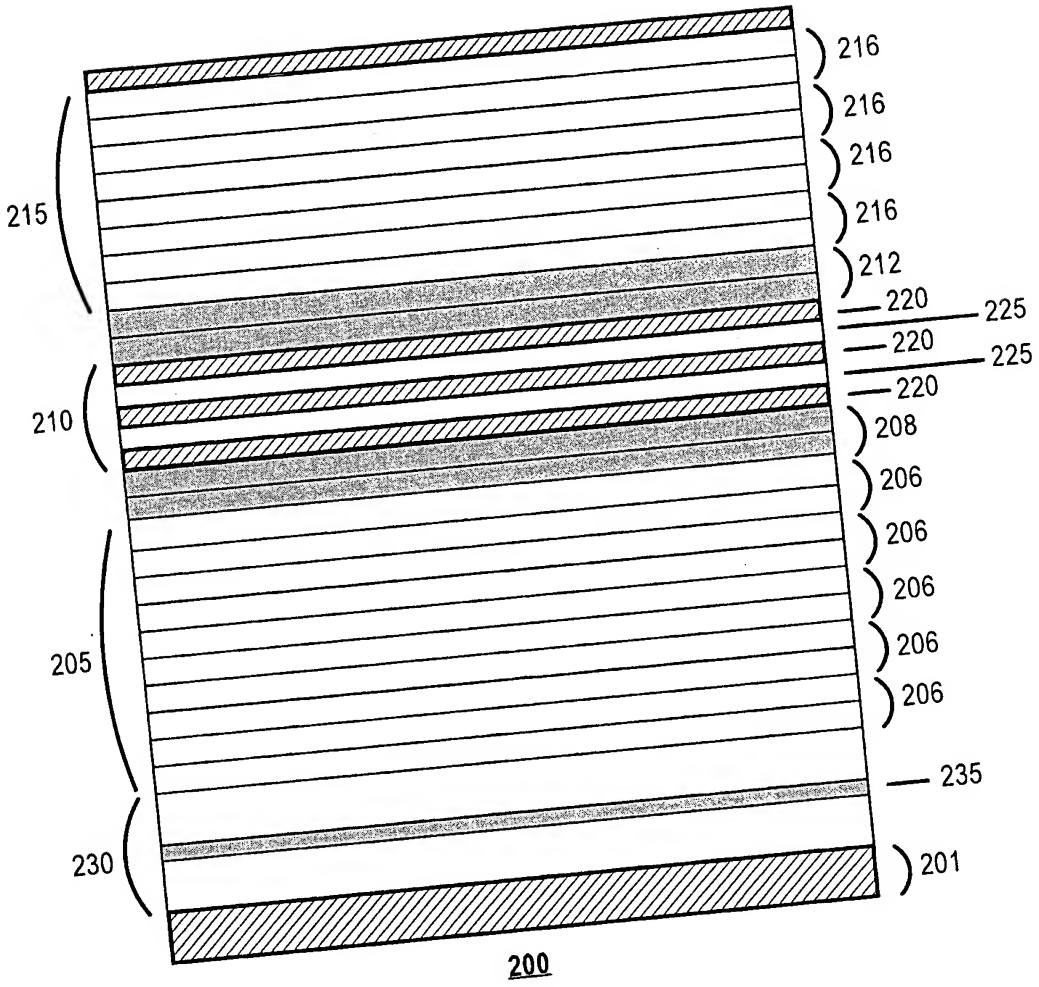

216
216
216
216
212
220
225
220
225
220
208
206
206
206
206
206
235
201
215
210
205
230
200

Figure 13

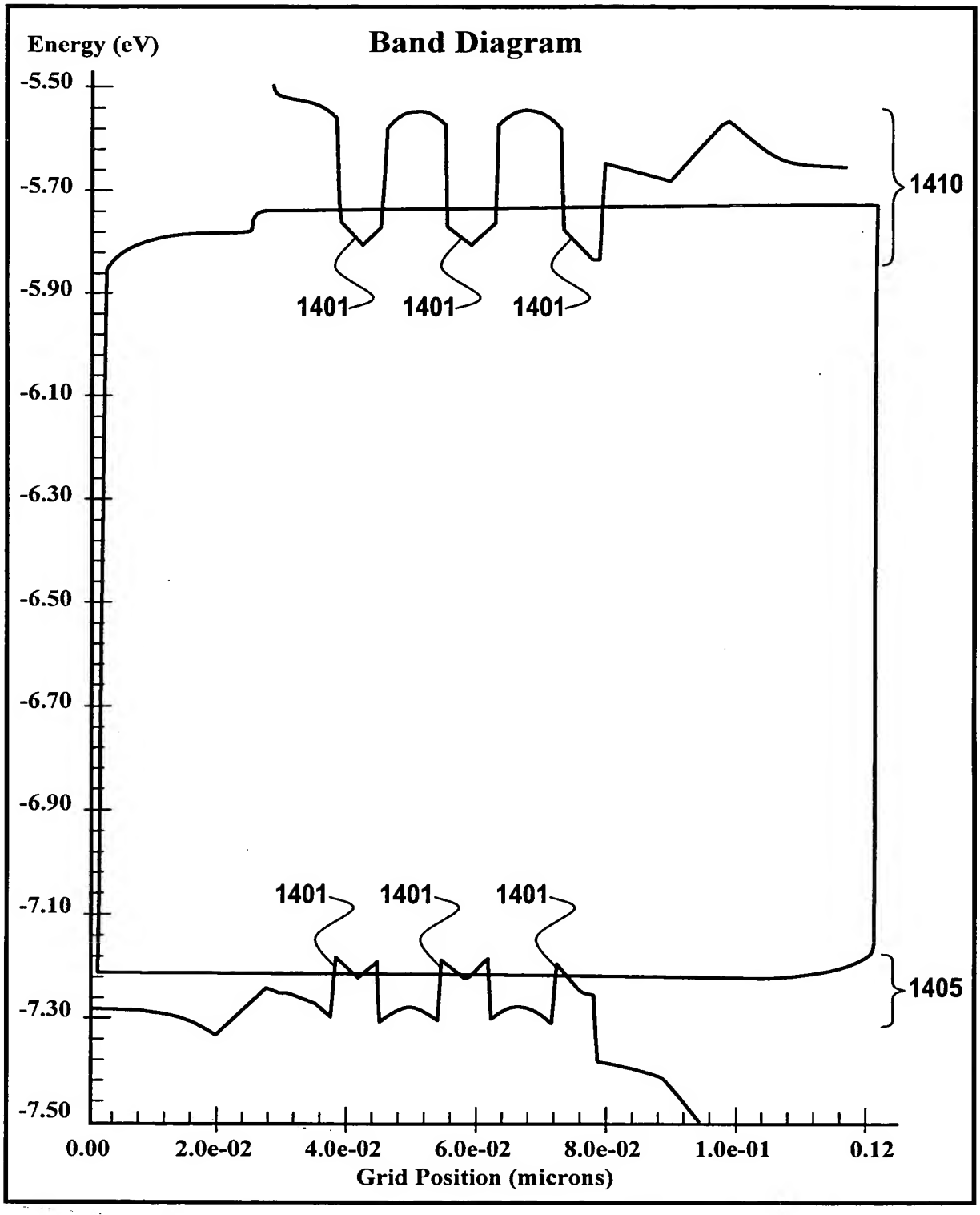

Band Diagram
Energy (eV)
-5.50
-5.70
-5.90
-6.10
-6.30
-6.50
-6.70
-6.90
-7.10
-7.30
-7.50
1401
1401
1401
1410
1401
1401
1401
1405
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 14

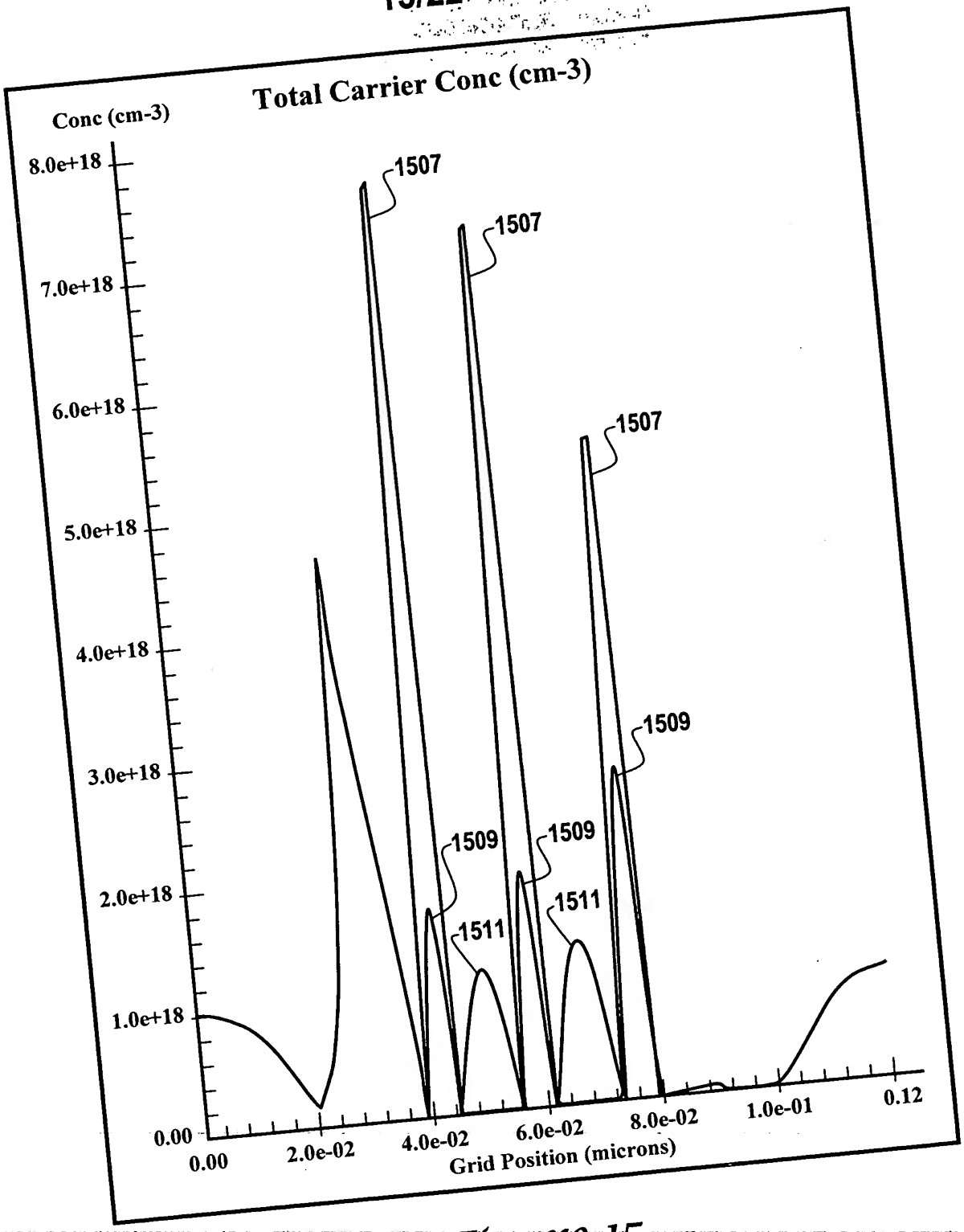

Total Carrier Conc (cm-3)
Conc (cm-3)
8.0e+18
7.0e+18
6.0e+18
5.0e+18
4.0e+18
3.0e+18
2.0e+18
1.0e+18
0.00
1507
1507
1507
1509
1509
1509
1511
1511
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 15

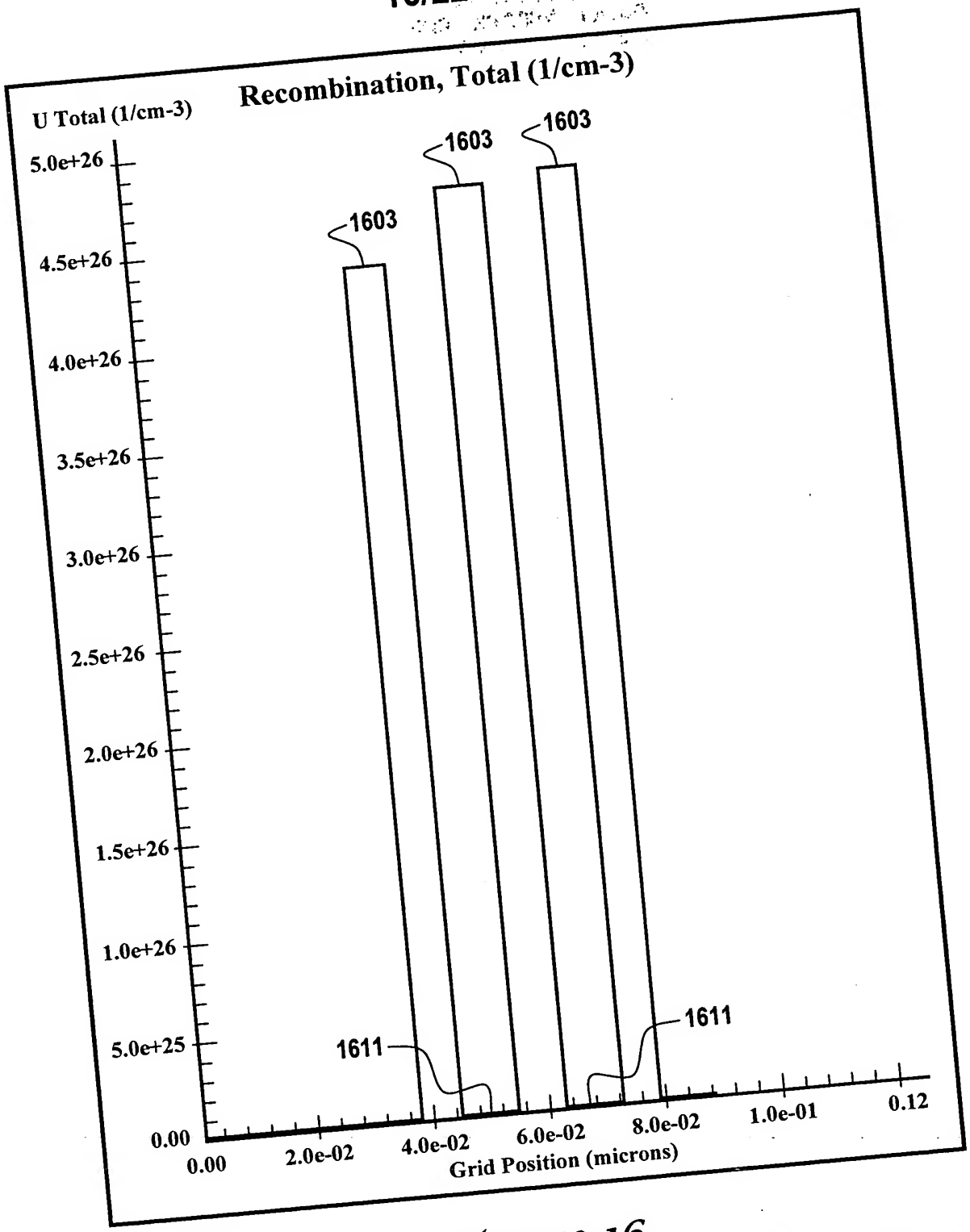

Recombination, Total (1/cm-3)
U Total (1/cm-3)
5.0e+26
4.5e+26
4.0e+26
3.5e+26
3.0e+26
2.5e+26
2.0e+26
1.5e+26
1.0e+26
5.0e+25
0.00
1603
1603
1603
1611
1611
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 16

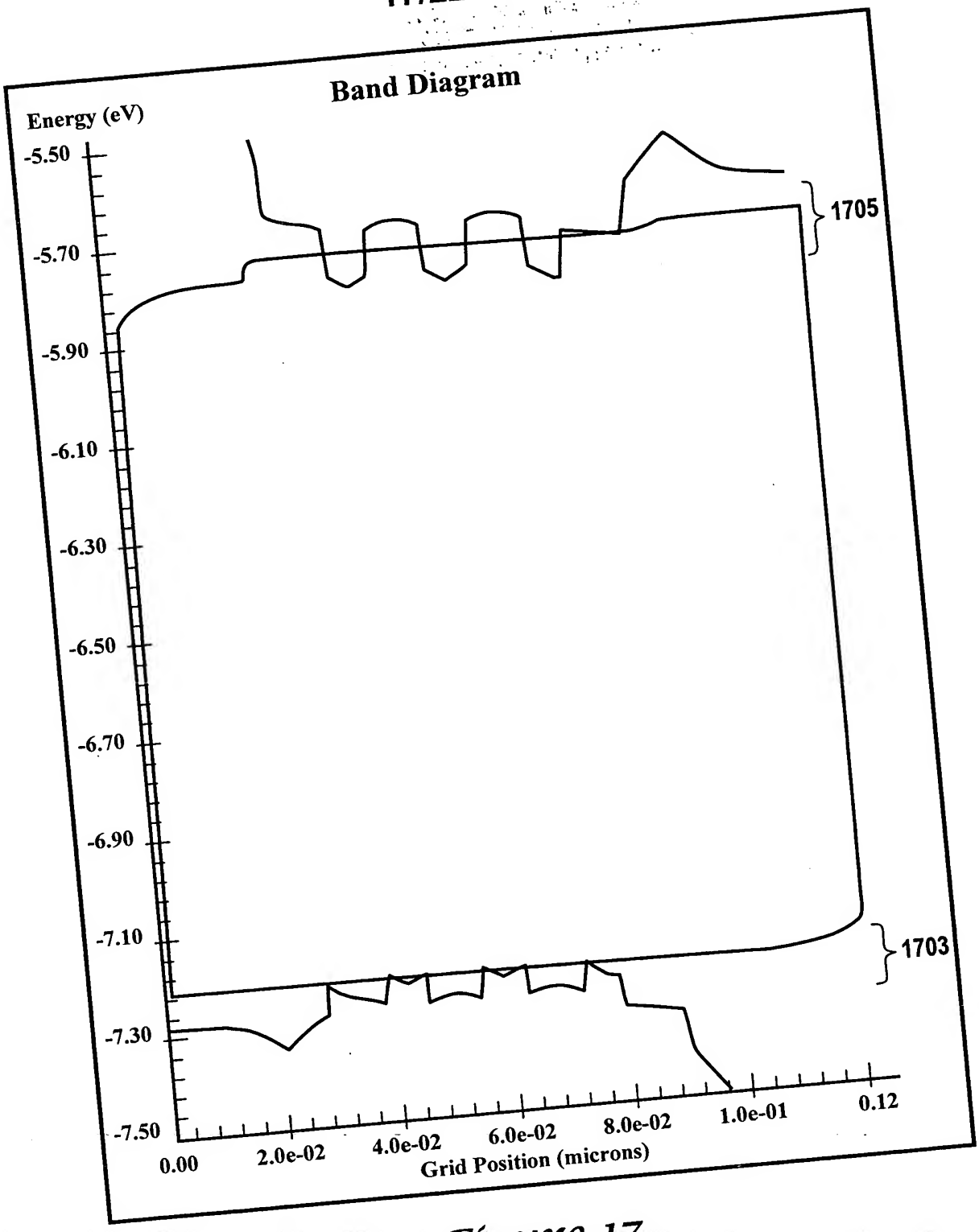

Band Diagram
Energy (eV)
-5.50
-5.70
-5.90
-6.10
-6.30
-6.50
-6.70
-6.90
-7.10
-7.30
-7.50
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)
1705
1703

Figure 17

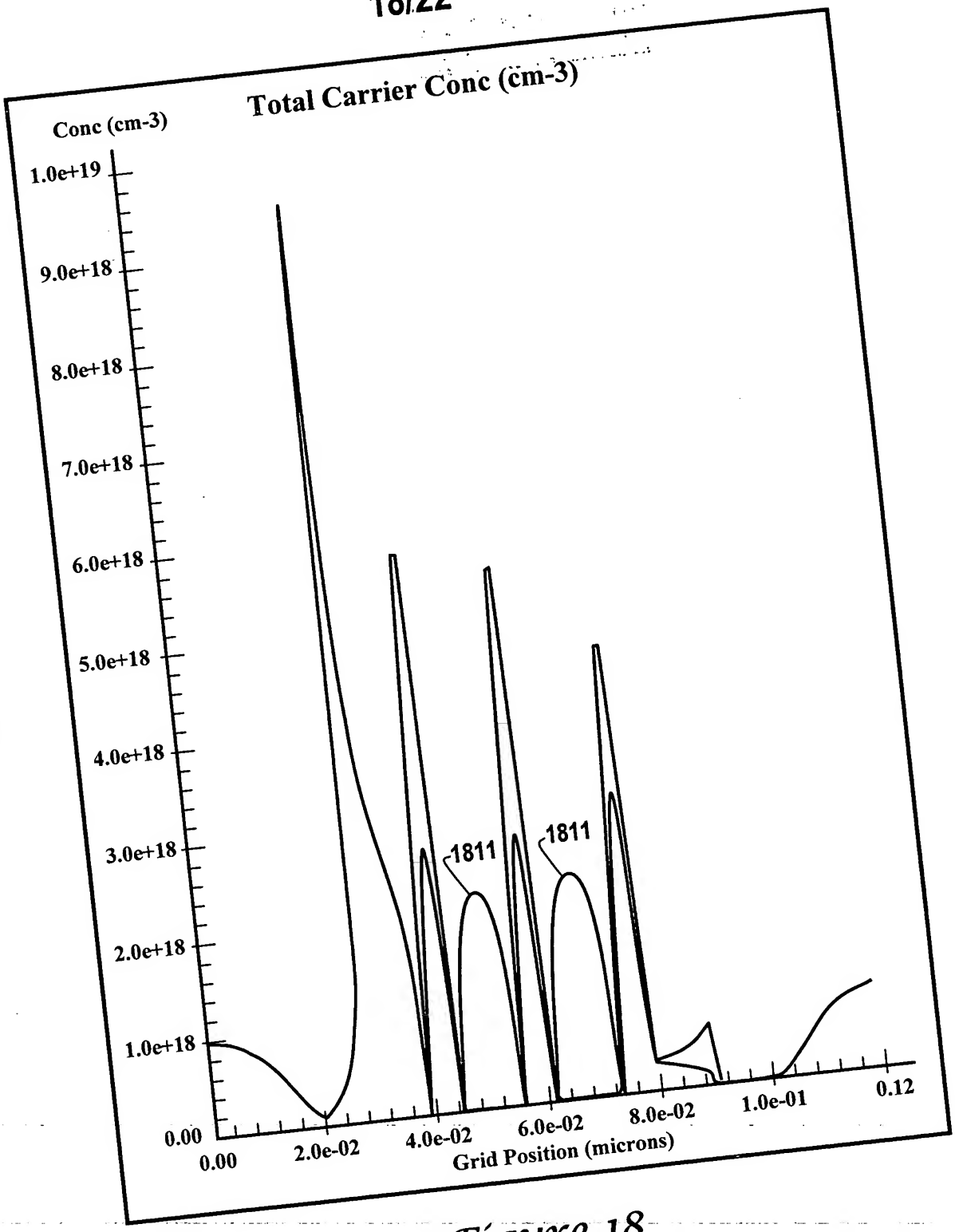

Total Carrier Conc (cm-3)
Conc (cm-3)
1.0e+19
9.0e+18
8.0e+18
7.0e+18
6.0e+18
5.0e+18
4.0e+18
3.0e+18
2.0e+18
1.0e+18
0.00
1811
1811
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 18

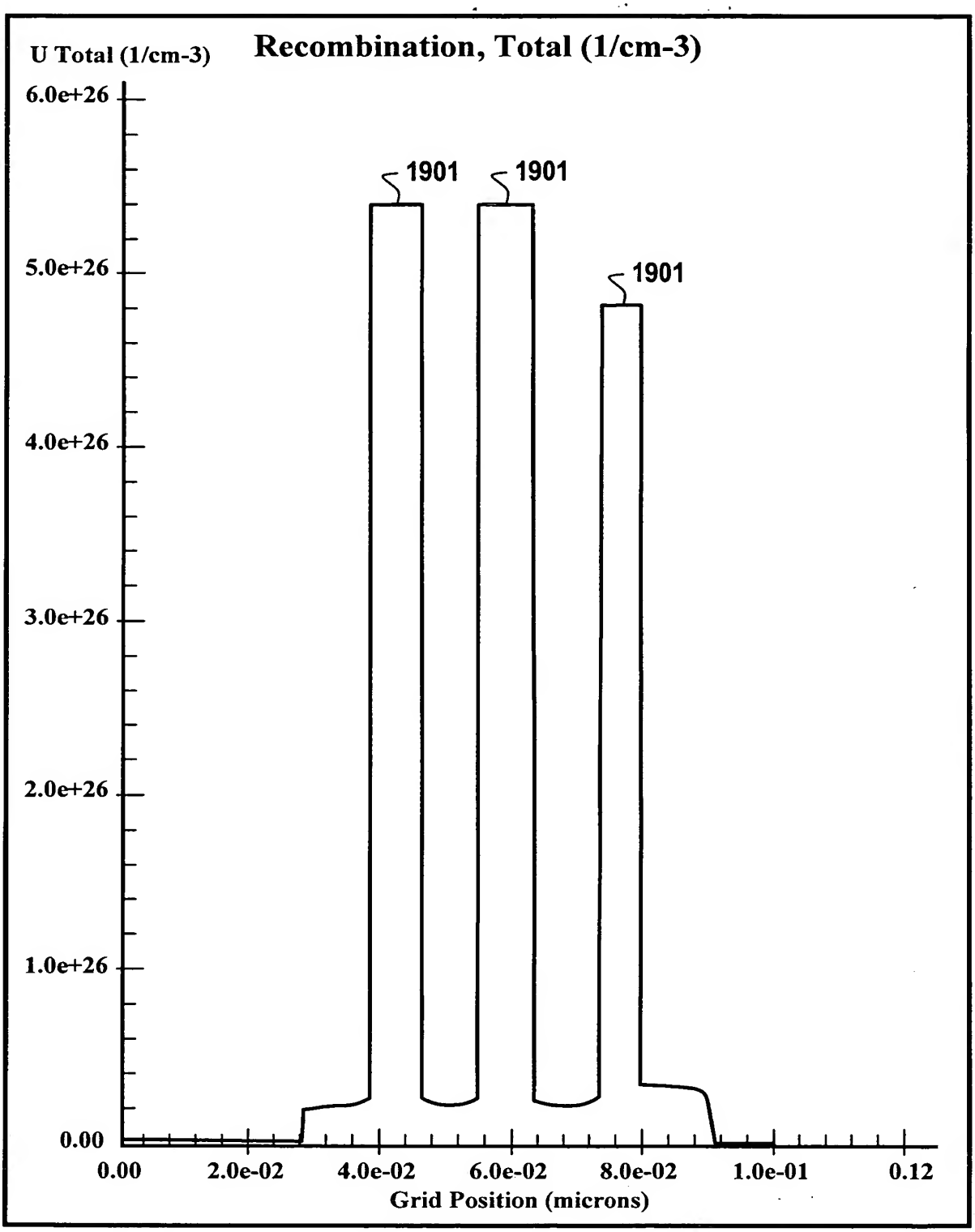

U Total (1/cm-3)
Recombination, Total (1/cm-3)
6.0e+26
5.0e+26
4.0e+26
3.0e+26
2.0e+26
1.0e+26
0.00
1901
1901
1901
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 19

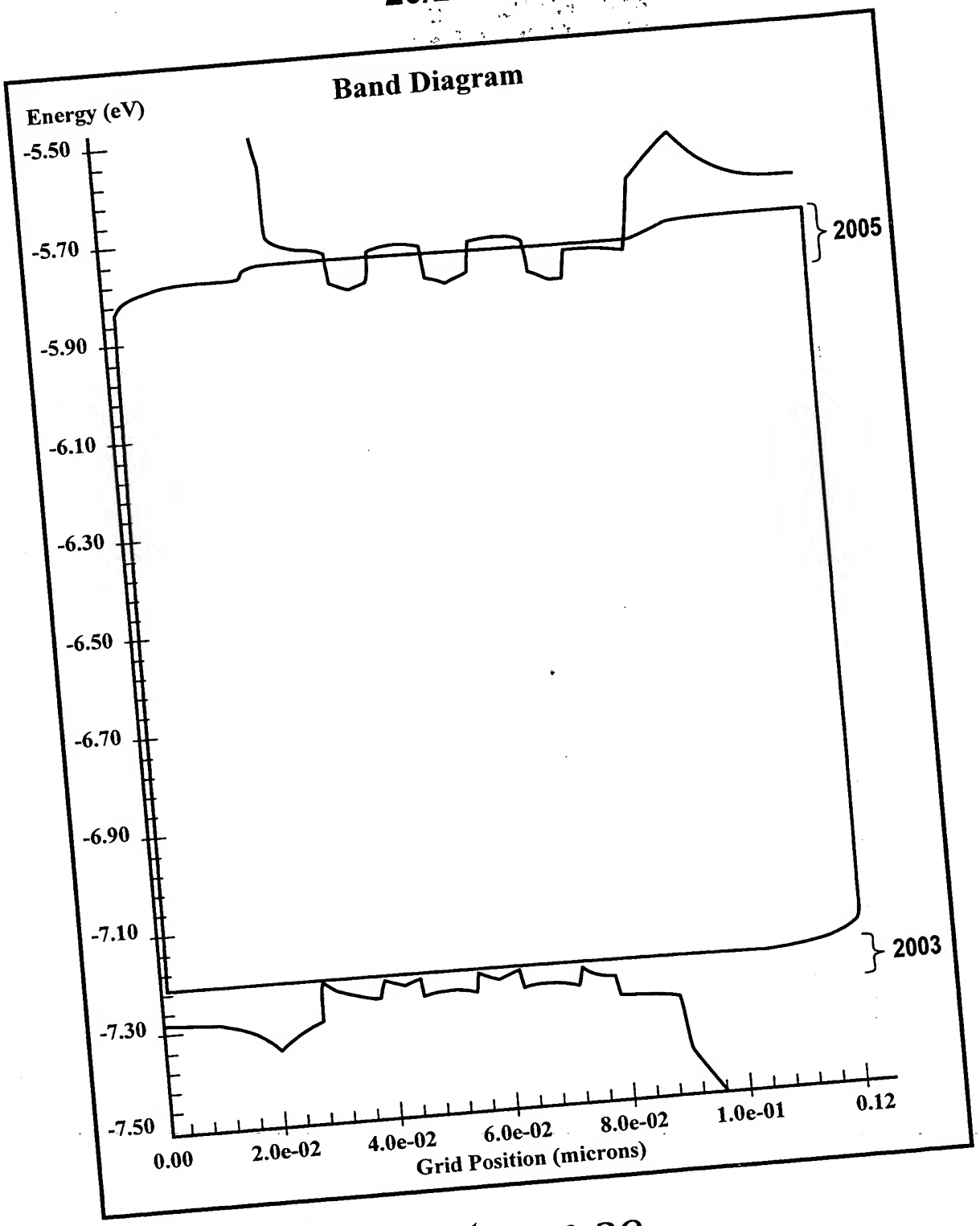

Band Diagram
Energy (eV)
-5.50
-5.70
-5.90
-6.10
-6.30
-6.50
-6.70
-6.90
-7.10
-7.30
-7.50
2005
2003
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 20

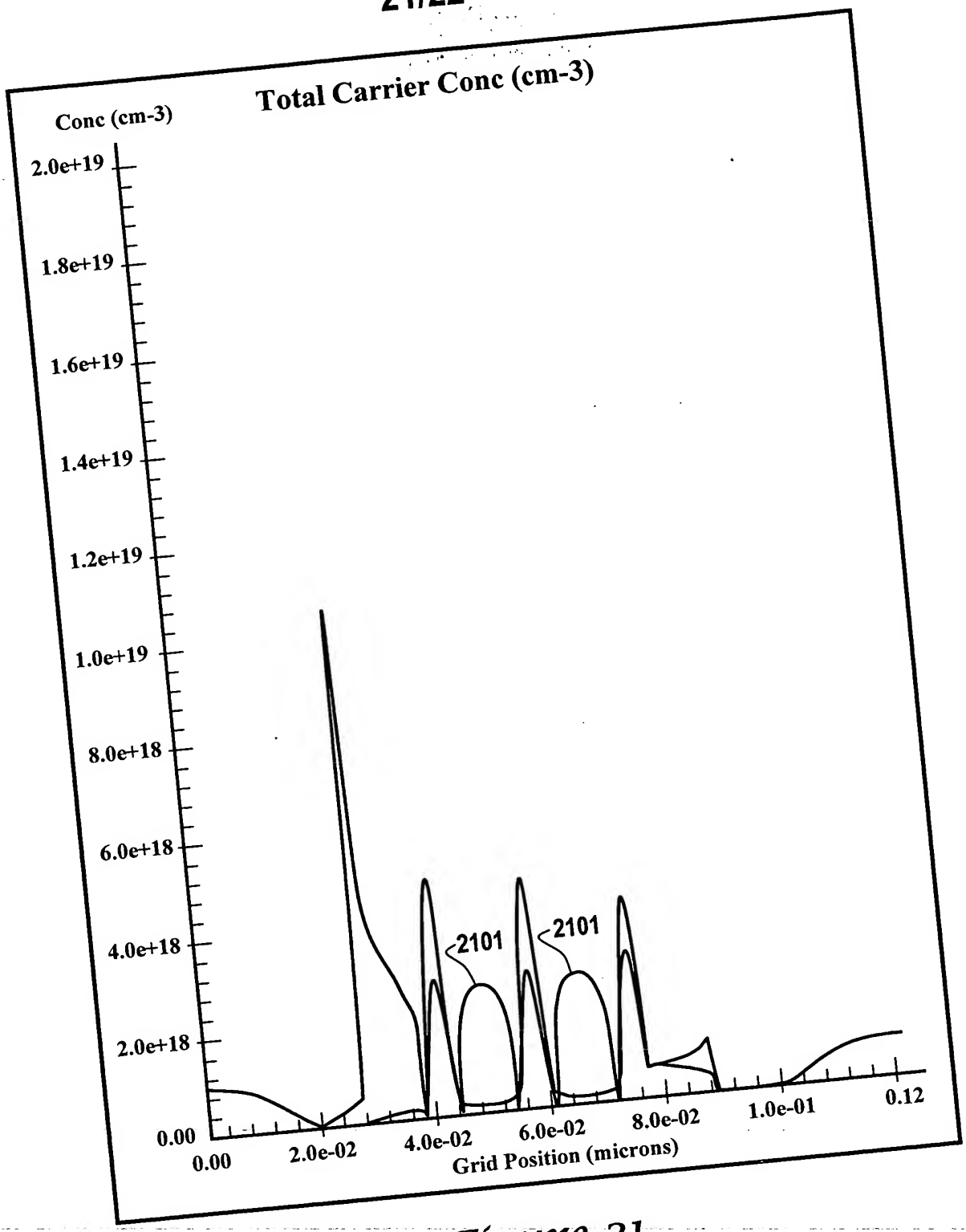

Total Carrier Conc (cm-3)
Conc (cm-3)
2.0e+19
1.8e+19
1.6e+19
1.4e+19
1.2e+19
1.0e+19
8.0e+18
6.0e+18
4.0e+18
2.0e+18
0.00
2101
2101
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 21

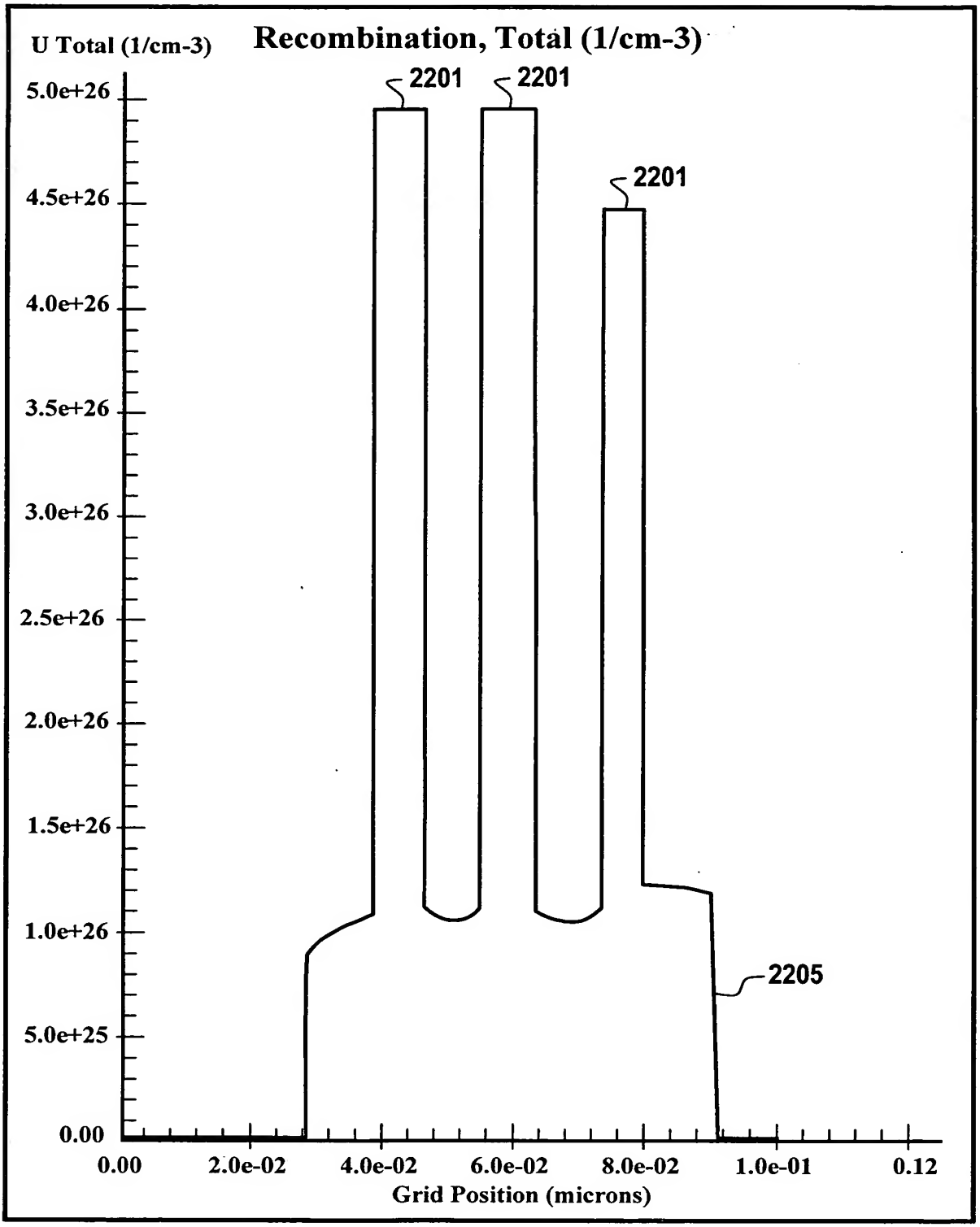

U Total (1/cm-3)
Recombination, Total (1/cm-3)
2201
2201
2201
2205
5.0e+26
4.5e+26
4.0e+26
3.5e+26
3.0e+26
2.5e+26
2.0e+26
1.5e+26
1.0e+26
5.0e+25
0.00
0.00
2.0e-02
4.0e-02
6.0e-02
8.0e-02
1.0e-01
0.12
Grid Position (microns)

Figure 22